

**WHAT IS CLAIMED IS:**

1. A private network system with a ubiquitous service function comprising:

at least one aware-device connected to one or more electronic appliances, in which said at least one aware-device senses context information related to a user and an environment, and is inputted with a service request command; and

a server for acquiring service data corresponding to the context information related to the user and the environment and the service request command, which are transmitted from said at least one aware-device, and for transmitting the acquired service data to said at least one aware-device.

2. The system according to claim 1, wherein the server transmits operation control signals for controlling an operation of said one or more electronic appliances connected to said at least one aware-device based on the context information related to the user and the environment and the service request command, which are transmitted from said at least one aware-device.

3. The system according to claim 2, wherein said at least one aware-device transmits the operation control signals to said one or more electronic appliances connected to said at least one aware-device, whereby the operation of said one or more electronic appliances is controlled.

4. The system according to claim 1, wherein said at least one aware-device comprises:

a sensing unit for sensing the context information related to the user and the environment;

a device communication unit for performing data communication with said one or more electronic appliances and the server connected thereto;

a device control unit for processing the sensed context information related to the user and the environment, and the inputted service request command, into predetermined data; and

an output unit for outputting the service data transmitted from the server to at least one of said one or more electronic appliances,

wherein the device control unit individually controls the sensing unit, the device communication unit, and the output unit.

5. The system according to claim 4, wherein the service request command is inputted into said at least one aware-device by way of an input device of said at least one of said one or more electronic appliances and the sensing unit of said at least one aware-device.

6. The system according to claim 4, wherein the device control unit controls the operation of the electronic appliances based on the sensed context information related to the user and the environment.

7. The system according to claim 1, wherein the server comprises:  
a server communication unit for performing data communication with said at least one aware-device and an external network;  
a storage unit for storing the context information related to the user and the environment, and information related to the one or more electronic appliances connected to said at least one aware-device; and  
a server control unit for acquiring the service data corresponding to the context information related to the user and the environment and the service request command, which are transmitted from said at least one aware-device, by using the storage unit and the external network, and for controlling the server communication unit to transmit the service data to said at least one aware-device.

8. The system according to claim 7, wherein the server control unit controls the operation of the one or more electronic appliances connected to said at least one aware-device based on the context information related to the user and the environment and the service request command, which are transmitted from said at least one aware-device.

9. The system according to claim 7, wherein the server control unit controls whether the service data should be outputted or not based on the context information related to the user and the environment transmitted from said at least one aware-device.

10. The system according to claim 7, wherein the server control unit selects at least one of the one or more electronic appliances for outputting the service data and controls the operation of the selected at least one of the one or more electronic appliances, based on the context information related to the user, the environment and the service request command, which are transmitted from said at least one aware-device.

11. The system according to claim 10, wherein the server control unit converts the service data into a data format suitable for the selected at least one of the one or more electronic appliances.

12. The system according to claim 1, wherein the private network system is a home network system.

13. The system according to claim 1, wherein said at least one aware-device is contained in one of said one or more electronic appliances.

14. A method for operating a private network system with a ubiquitous service function, comprising :

sensing, at at least one aware-device connected to one or more electronic appliances, context information related to a user and an

environment, and inputting a service request command into the at least one aware-device; and

transmitting the context information related to the user and the environment and the service request command from the at least one aware-device to a server, and acquiring, at the server, service data corresponding to the transmission of the context information and the service request command, and transmitting the acquired service data to said at least one aware-device.

15. The method according to claim 14, wherein the server transmits operation control signals for controlling the operation of the one or more electronic appliances connected to the aware-device based on the context information related to the user and the environment, and the service request command, which are transmitted from said at least one aware-device.

16. The method according to claim 15, wherein said at least one aware-device transmits the operation control signals to the one or more electronic appliances connected to the aware-device, whereby the operation of the one or more electronic appliances is controlled.

17. The method according to claim 14, wherein the sensing step comprises:

sensing the context information related to the user and the environment and inputting the service request command;

processing the sensed context information related to the user and the environment and the inputted service request command, into predetermined data;

transmitting the predetermined data corresponding to the context information related to the user and the environment and the inputted service request command, to the server; and

outputting the service data transmitted from the server to the one or more electronic appliances.

18. The method according to claim 17, wherein in the processing step, an operation of the one or more electronic appliances is controlled based on the sensed context information related to the user and the environment.

19. The method according to claim 14, wherein the transmitting step comprises:

inputting the context information related to the user and the environment, and the service request data, which are data-processed by said at least one aware-device;

storing the context information related to the user and the environment and information about the one or more electronic appliances connected to the aware device;

acquiring the service data corresponding to the context information related to the user and the environment and the service request command,

which are transmitted from said at least one aware-device, by using a storage unit and an external network; and

outputting the service data to said at least one aware-device.

20. The method according to claim 19, wherein the acquiring step controls an operation of the one or more electronic appliances connected to said at least one aware-device based on the context information related to the user and the environment and the service request command, which are transmitted from said at least one aware-device.

21. The method according to claim 19, wherein the acquiring step controls whether the service data should be outputted or not based on the context information related to the user and the environment, transmitted from said at least one aware-device.

22. The method according to claim 19, wherein the acquiring step comprises selecting at least one of the one or more appliances for outputting the service data and controls an operation of the selected at least one of the one or more electronic appliances, based on the context information related to the user and the environment and the service request command, which are transmitted from said at least one aware-device.

23. The method according to claim 22, wherein the acquiring step comprises converting the service data into a data format suitable for the selected at least one of the one or more electronic appliances.

24. The system according to claim 14, wherein the private network system is a home network system.

25. The system according to claim 14, wherein said at least one aware-device is contained in one of the one or more electronic appliances.